



GAGE1 siRNA (h): sc-90851

BACKGROUND

The GAGE family is comprised of a number of highly homologous acidic proteins involved in immunity and germ cell biology. Expressed most frequently in cancerous tissue, members of the GAGE family are considered potential targets for cancer immunotherapy. GAGE1 (G antigen 1), also known as CT4.1 (cancer/testis antigen 4.1), is a 138 amino acid protein that belongs to the GAGE family. While expressed almost exclusively in cancerous tissue, GAGE1 has been observed in normal testis. GAGE1 functions as an antigen that is recognized on melanoma by autologous cytolytic T-lymphocytes. The gene encoding GAGE1 maps to human chromosome X, which consists of about 153 million base pairs and nearly 1,000 genes. The combination of a X and Y chromosome lead to normal male development, while two copies of X lead to normal female development. There are a number of conditions related to an unusual number and combination of sex chromosomes being inherited, including Turner's syndrome, Klinefelter's syndrome and Triple X syndrome. Color blindness, hemophilia, and Duchenne muscular dystrophy are well-known X chromosome-linked conditions that affect males more frequently as males carry a single X chromosome.

REFERENCES

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2. Nagel, H., et al. 2003. Analysis of the tumour suppressor genes, FHIT and WT-1, and the tumour rejection genes, BAGE, GAGE-1/2, HAGE, MAGE-1, and MAGE-3, in benign and malignant neoplasms of the salivary glands. *Mol. Pathol.* 56: 226-231.
3. Shao, J.B., et al. 2003. Expression of MAGE, GAGE, and BAGE genes in human hepatocellular carcinoma. *Zhonghua Gan Zang Bing Za Zhi* 11: 142-144.
4. Kong, U., et al. 2004. The expression of GAGE gene can predict aggressive biologic behavior of intestinal type of stomach cancer. *Hepatogastroenterology.* 51: 1519-1523.
5. Gjerstorff, M.F., et al. 2007. MAGE-A1, GAGE and NY-ESO-1 cancer/testis antigen expression during human gonadal development. *Hum. Reprod.* 22: 953-960.
6. Gjerstorff, M.F. and Ditzel, H.J. 2008. An overview of the GAGE cancer/testis antigen family with the inclusion of newly identified members. *Tissue Antigens* 71: 187-192.
7. Zhang, S., et al. 2010. Expression of tumor-specific antigen MAGE, GAGE and BAGE in ovarian cancer tissues and cell lines. *BMC Cancer* 10: 163.

CHROMOSOMAL LOCATION

Genetic locus: GAGE1 (human) mapping to Xp11.23.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

GAGE1 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GAGE1 shRNA Plasmid (h): sc-90851-SH and GAGE1 shRNA (h) Lentiviral Particles: sc-90851-V as alternate gene silencing products.

For independent verification of GAGE1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-90851A, sc-90851B and sc-90851C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

GAGE1 siRNA (h) is recommended for the inhibition of GAGE1 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GAGE1 gene expression knockdown using RT-PCR Primer: GAGE1 (h)-PR: sc-90851-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.